CLAIMS

WHAT IS CLAIMED:

1. A vaccine composition comprising autologous mature dendritic cells (DC) pulsed with inactivated human immunodeficiency virus (HIV).

2. The vaccine composition of claim 1, wherein said HIV is HIV-1.

3. The vaccine composition of claim 2, wherein said HIV-1 is R5 HIV-1 JR-CSF.

4. The vaccine composition of claim 1, wherein said DC is derived from peripheral blood mononuclear cells (PBMC).

5. The vaccine composition of claim 1, wherein said DC is prepared by culturing the PBMC in medium containing granulocyte-macrophage colony stimulating factor (GM-CSF) and human interleukin-4 (IL-4).

6. The vaccine composition of claim 5, wherein the PBMC is further cultured in medium containing human interferon-beta (IFN-beta).

7. An HIV-infection suppression factor which is produced by human $CD4^+$ pulsed with inactivated HIV, has a molecule weight of more than 100 kDa, is not absorbed to heparin-Sepharose columns, and is inactivated by heating at 56 degree Celsius for 30 min.

8. The HIV-infection suppression factor of claim 7, wherein the HIV is HIV-1.

9. The HIV-infection suppression factor of claim 7, wherein the HIV is R5 HIV-1 JR-CSF.

10. The HIV-infection suppression factor of claim 7, wherein the factor is not lost its suppression activity by subjecting to neutralizing antibodies against human RANTES, MIP-1-alpha, MIP-1-beta, IFN-alpha, IFN-beta, IFN-gamma, IL-4, IL-10, IL-13, IL-16, MCP-1, MCP-3, TNF-alpha or TNF-beta.

11. The HIV-infection suppression factor of claim 7, wherein the factor is not lost its suppression activity by subjecting to anti-beta-chemokine antibodies.

12. A method for the vaccination against HIV comprising administering autologous mature DC pulsed with inactivated HIV to a subject to be vaccinated.

13. The method of claim 12, wherein said HIV is HIV-1.

14. The method of claim 13, wherein said HIV-1 is R5 HIV-1 JR-CSF.

15. A method for the vaccination against HIV comprising: collecting PBMC from a subject to be vaccinated, culturing the PBMC in medium containing GM-CSF and human IL-4 to prepare autologous mature DC, pulsing the DC with inactivated HIV, and administering the DC to the subject.

16. The method of claim 15, which further includes culturing the PBMC in medium containing IFN-beta.

17. The method of claims 15 or 16, wherein said HIV is HIV-1.

18. The method of claims 17, wherein said HIV-1 is R5 HIV-1 JR-CSF.